WHAT IS CLAIMED IS:

1. A method for detecting anomalous behavior in an executing software program, said method comprising the steps of:

generating a normal execution trace for the software program;

applying a learning algorithm to the normal execution trace to build a finite automaton;

applying an examination algorithm to the finite automaton to identify undesirable

transition states in the finite automaton and to create a labeled finite automaton; and

applying the labeled finite automaton to an execution trace associated with the executing

software program.